

DOCKET NO. D-2003-022 CP-4

DELAWARE RIVER BASIN COMMISSION

**Artesian Water Company, Inc. – Southern Distribution System
Groundwater Withdrawal and Importation Project
New Castle County, Delaware**

PROCEEDINGS

This docket is issued in response to an Application submitted by Artesian Water Company, Inc. (AWC) to the Delaware River Basin Commission (DRBC or Commission) on January 11, 2016 for renewal of an allocation of groundwater and review of a groundwater withdrawal project and importation project (Application). These sources were previously approved by the Commission in Docket No. D-2003-022 CP-3 on December 12, 2006. These withdrawals will continue to be regulated by DNREC in accordance with the Administrative Agreement (AA) between DRBC and the State of Delaware, Section IV.C.4, enacted on July 2010 and modified on May 8, 2013. The docket holder's importation of groundwater remains reviewable by the Commission and is the subject of this docket renewal. The project wells were approved by the Delaware Department of Natural Resources and Environmental Control (DNREC) as follows:

WELL FIELD	DNREC PERMIT NO.	DNREC EFFECTIVE DATE
Augustine Creek	13-0001A and 13-0001B	January 4, 2013
Bayview	98-00014M2	June 26, 1998
Bethel Church	11-0004A	July 29, 2011
Chestnut Grove	98-0015	October 15, 1998
Choptank	98-0016M	October 15, 1998
Commodore Estates	98-0007	October 15, 1998
Emerson Farm	98-0008	October 15, 1998
Lester Farm	98-0009	October 15, 1998
Stonefield	98-0010	October 15, 1998
Thomas Cove	98-0011M	October 15, 1998
Townsend	98-0012M	October 15, 1998
Willow Grove	98—0013A and 98-0013BM1	June 26, 1998
Hyetts Corner	Pending	Pending
Levels	Pending	Pending

The Application was reviewed for continuation in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The New Castle County

Planning Department has been notified of pending action on this docket. Public hearings on this project were held by the DRBC on August 10, 2016.

A. DESCRIPTION

1. **Purpose.** The purpose of this project is to renew the approval of an existing import project of up to 0.369 million gallons per day (mgd) from the Chesapeake Bay Basin (CBB) from the Choptank and Bethel Church well fields to augment water supply to the docket holder's public water supply system in the Delaware River Basin (DRB). This project will also renew the approval of up to 158.1 million gallons per month (mgm) to the docket holder's public water supply distribution system. AWC is not requesting an increase in its system groundwater withdrawal allocation. The project's existing groundwater withdrawals are approved by DNREC and will continue to be regulated in accordance with the Administrative Agreement (AA) entered into on July 2010 and modified on May 8, 2013 by the Commission and the State of Delaware.

2. **Location.** The project wells are located as follows:

WELL NO.	TOWNSHIP, STATE	WATERSHED	GEOLOGIC FORMATION
Augustine Creek Well No. 1	New Castle County, Delaware	Augustine Creek	Potomac
Augustine Creek Well No. 2	New Castle County, Delaware	Augustine Creek	Potomac
Augustine Creek Well No. 3	New Castle County, Delaware	Augustine Creek	Mount Laurel
Bayview Well No. 1R	New Castle County, Delaware	C&D Canal East	Mount Laurel
Bayview Well No. 2R	New Castle County, Delaware	C&D Canal East	Mount Laurel
Bayview Well No. 3	New Castle County, Delaware	C&D Canal East	Mount Laurel
Chestnut Grove Well No. 1	New Castle County, Delaware	Drawyer Creek	Potomac
Commodore Estates Well No. 1	New Castle County, Delaware	Drawyer Creek	Potomac
Emerson Farm Well No. 1	New Castle County, Delaware	Scott Run	Potomac
Lester Farm Well No. 1	New Castle County, Delaware	Augustine Creek	Potomac
Lester Farm Well No. 2	New Castle County, Delaware	Augustine Creek	Potomac
Stonefield Well No. 1	New Castle County, Delaware	Hangmans Run	Potomac
Thomas Cove Well No. 1	New Castle County, Delaware	Appoquinimink River	Mount Laurel

WELL NO.	TOWNSHIP, STATE	WATERSHED	GEOLOGIC FORMATION
Thomas Cove Well No. 2	New Castle County, Delaware	Appoquinimink River	Mount Laurel
Hyetts Corner Well No. 1	New Castle County, Delaware	Coopers Run	Middle Potomac
Townsend Well No. 1R	New Castle County, Delaware	Herring Run	Rancocas
Townsend Well No. 2R	New Castle County, Delaware	Herring Run	Rancocas
Willow Grove Well No. 1	New Castle County, Delaware	Appoquinimink River	Potomac
Willow Grove Well No. 2	New Castle County, Delaware	Appoquinimink River	Mount Laurel
Willow Grove Well No. 3	New Castle County, Delaware	Appoquinimink River	Potomac
Choptank Well No. 1 (Out of Basin)	New Castle County, Delaware	Back Creek	Middle Potomac
Choptank Well No. 2 (Out of Basin)	New Castle County, Delaware	Back Creek	Upper Potomac
Choptank Well No. 3 (Out of Basin)	New Castle County, Delaware	Back Creek	Lower Potomac
Bethel Church Well No. 1 (Out of Basin)	New Castle County, Delaware	Back Creek	Middle Potomac
Levels Well No. 1	New Castle County, Delaware	Broad Creek	Magothy
Levels Well No. 2	New Castle County, Delaware	Broad Creek	Rancocas

Specific location information has been withheld for security reasons.

3. Area Served. The project wells will serve residential and commercial development in the southern portion of New Castle County within a 92-square mile area between the Chesapeake & Delaware Canal and the Town of Townsend as outlined on a map entitled “New Castle County, Delaware, Artesian Service Territory” submitted with the application. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the Decisions section of this docket. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

4. Physical features.

a. **Design criteria.** The AWC system currently serves an estimated population of 10,572 through 3,524 service connections, 57 commercial, 4 irrigation and 11 other types of connections with an average and maximum water demand of 1.158 mgd and 1.953 mgd, respectively. The docket holder projects an average and maximum water demand of 2.335 mgd and 5.0 mgd, respectively, by the year 2026. The allocation of 158.1 mgm should be sufficient to meet the future demands of the AWC system.

b. **Facilities.** The project wells have the following characteristics:

WELL NO.	DEPTH (FEET)	CASED DEPTH/ CASING DIAMETER	PUMP CAPACITY (GPM)	YEAR DRILLED
Augustine Creek Well No. 1	495	436' / 8"	50	1995
Augustine Creek Well No. 2	792	418' / 10"	80	1995
Augustine Creek Well No. 3	152	102' / 6"	65	1999
Bayview Well No. 1R	200	130' / 6"	100	2005
Bayview Well No. 2R	220	125' / 4"	100	2001
Bayview Well No. 3	180	128' / 8"	300	1993
Chestnut Grove Well No. 1	446	410' / 8"	600	1993
Commodore Estates Well No. 1	435	375' / 8"	350	1996
Emerson Farm Well No. 1	435	375' / 8"	250	1993
Lester Farm Well No. 1	534	482' / 8"	500	1994
Lester Farm Well No. 2	505	424' / 8"	350	1995
Stonefield Well No. 1	813	692' / 12"	450	1994
Thomas Cove Well No. 1	330	200' / 8"	250	1997
Thomas Cove Well No. 2	270	195' / 8"	250	2002
Hyetts Corner Well No. 1	422	420' / 10"	675	1998

WELL NO.	DEPTH (FEET)	CASED DEPTH/ CASING DIAMETER	PUMP CAPACITY (GPM)	YEAR DRILLED
Townsend Well No. 1R	155	85' / 8"	225	2004
Townsend Well No. 2R	180	80' / 12"	225	2002
Willow Grove Well No. 1	740	606' / 8"	450	1997
Willow Grove Well No. 2	238	157' / 12"	100	1997
Willow Grove Well No. 3	982	931' / 10"	500	2003
Choptank Well No. 1 (Out of Basin)	797	512' / 8"	250	1996
Choptank Well No. 2 (Out of Basin)	310	213' / 18"	400	1996
Choptank Well No. 3 (Out of Basin)	900	810' / 10"	1,000	1998
Bethel Church Well No. 1 (Out of Basin)	827	670' / 8"	700	1998
Levels Well No. 1	398	363' / 4"	55	2001
Levels Well No. 2	222	177' / 4"	55	2001

All water service connections are metered.

All wells are metered.

Prior to entering the distribution system, the water is treated by chlorine for disinfection, phosphate for corrosion resistance and filtration for iron removal. Fluoridation and pH adjustment are also used at several of AWC's treatment facilities.

The project facilities are above the 100-year flood elevation.

The AWC storage facilities total 3.14 mg, which is approximately 2.7 days of supply.

The water system is presently interconnected with the Town of Middletown with a capacity of 2.0 mgd.

c. **Other.** Wastewater is conveyed to the Middletown - Odessa - Townsend Regional (MOT) and Middletown sewage treatment facilities most recently approved by DRBC Dockets Nos. D-1993-006 CP-3 on March 12, 2014 and D-1968-075 CP on May 22, 1968, respectively. DNREC issued its most recent NPDES Permit No. DE000050547 on October 3, 2012 and Permit No. DEN 359298-13 on September 17, 2013 and was amended on September 25, 2015.

d. **Cost.** There is no associated cost with this project.

e. **Relationship to the Comprehensive Plan.** The AWC's project wells were previously included in the Comprehensive Plan by the Commission in Docket Nos. D-1997-048 CP approved on August 18, 1999, D-2003-022 CP approved on January 21, 2004, D-2003-022 CP-2 approved on May 10, 2006 and D-2003-022 CP-3 approved on December 12, 2006. Issuance of this docket will continue the public water supply distribution system in the Comprehensive Plan.

B. FINDINGS

The Augustine Creek wellfield was previously approved in Docket No. D-2012-030 CP-1 on May 8, 2013. This wellfield is part of the AWC Southern New Castle County distribution system, which is included in this docket. The approval of this docket will rescind Docket No. D-2012-030 CP-1.

Groundwater Importation

The AWC – Southern Distribution system has four wells (Choptank Wells Nos. 1, 2 and 3 and Bethel Church Well No. 1) which provide up to 15.5 mgd of groundwater from the CBB. The AWC – Southern Distribution system is located in the DRB in New Castle County, Delaware. Wastewater for both projects is conveyed to the New Castle Middletown - Odessa - Townsend Regional and Middletown sewage treatment facilities are located within the DRB. The continued importation of water to the DRB from sources outside of the DRB reduces reliance on in-basin sources. No other significant benefit or impairment is incurred to the basin from the ongoing importation of water from the AWC wells located in the CBB.

Water Audits for Public Water Supply Systems Serving Greater than 100,000 gpd

Section 2.1.8 of the Water Code states that it is the policy of the Commission to establish a standardized water audit methodology for owners of water supply systems serving the public to ensure accountability in the management of water resources. Voluntary Water Audits were encouraged for public water supply systems through December 31, 2011 (Section 2.1.8.B.). Effective January 1, 2012, the owners of each public water supply system are required to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software)

and corresponding AWWA guidance (Section 2.1.8.C). Water audits shall be submitted annually to the Commission by March 31. AWC submitted their most recent Water Audit on March 31, 2016.

The DRBC estimates that the project withdrawals, used for the purpose of public water supply, result in a consumptive use of 10 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

C. DECISION

I. Effective on the approval date for Docket No. D-2003-022 CP-4 below:

a. The projects described in Dockets Nos. D-2003-022 CP-3 and D-2012-030 CP-1 are removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2003-022 CP-4; and

b. Dockets Nos. D-2003-022 CP-3 and D-2012-030 CP-1 are rescinded and replaced by Docket No. D-2003-022 CP-4; and

c. The project and the appurtenant facilities described in the Section A “Physical Features” of this docket shall be added to the Comprehensive Plan.

II. The project as described in the Section A “Physical features” is approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by DNREC, where applicable and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. The wells and operational records shall be available at all times for inspection by the DRBC.

b. The wells shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

c. During any month, the combined withdrawal from all well sources shall not exceed 158.1 mgm. No well shall be pumped above the maximum instantaneous rate and monthly allocation as indicated below:

WELL FIELD	MONTHLY ALLOCATION
Augustine Creek	3.10
Bayview	13.33
Chestnut Grove	20.15
Commodore	13.33
Emerson	8.99
Hyetts Corner	30.13
Lester	31.00
Stonefield	17.98
Thomas Cove	8.99
Townsend	15.50
Willow Grove	29.06
Levels	2.232

d. The wells shall be equipped with readily accessible capped ports and drop pipes so that water levels may be measured under all conditions. Existing wells are to be similarly equipped, where possible, with readily accessible ports and drop pipes as repairs or modifications are made at each existing well.

e. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily withdrawals shall be maintained, and monthly totals shall be reported annually to DNREC. Withdrawal records shall be available at any time to the Commission if requested by the Executive Director.

f. Each new water service connection shall include a water meter in accordance with the DRBC's Resolution No. 87-7 (Revised).

g. The docket holder shall continue to implement its Water Conservation Plan as approved by DNREC and shall report to DNREC on the actions taken pursuant to this program and the impact of those actions as requested by DNREC.

h. No water service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

i. The docket holder shall implement to the satisfaction of DNREC, a drought or other water supply emergency plan.

j. In accordance with DRBC Resolutions No. 87-6 (Revised) and No. 2009-1, the docket holder shall continue to implement to the satisfaction of DNREC, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate non-revenue water and determine the current status of system infrastructure; recommendations to monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.

k. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8 of the Water Code, the docket holder shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding guidance. Water audits shall be submitted annually to the Commission by March 31.

l. No new water service connections shall be made to premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.

m. The docket holder shall implement to the satisfaction of the DNREC, a continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. The docket holder will report to the DNREC, on the actions taken pursuant to this program and the impact of those actions as requested by the DNREC.

n. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

o. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.

p. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form in advance of the docket expiration date set forth below. This docket hereby specifies a period of at least 12 months in advance of the docket expiration date for such advance notice. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such

notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

q. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the right to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

r. If the monitoring required herein or any other relevant data or information demonstrates that the operation of this project is interfering with or otherwise impairing existing uses of ground or surface water, or if the permit holder receives a complaint from an existing ground or surface water user within the zone of influence of the withdrawal alleging such interference or impairment, the permit holder shall immediately notify the Executive Director, and unless excused by the Executive Director, shall investigate the demonstrated or alleged impacts. For purposes of this condition, notification shall mean either (a) electronic transmittal of written notice to the Executive Director via email (using addresses posted on the DRBC website); or (b) written notice to the Executive Director and a telephone call to the Project Review Section at 609-883-9500, ext. 216. (Oral notification must always be accompanied by immediate written notification directed to the Executive Director.) In addition, the permit holder shall provide written notice to all potentially affected water users of the permit holder's responsibilities under this condition. **Any well or surface water supply that is impaired as a result of the permit holder's project withdrawal shall be repaired, replaced or mitigated at the permit holder's expense.** The scope of the options to consider for repair, replacement and/or mitigation shall not be limited solely to those that are owned, operated, or controlled by the project sponsor. An investigation report and/or mitigation plan prepared and certified by a licensed professional engineer and/or a licensed professional geologist shall be submitted to the Executive Director as soon as practicable following notice of the demonstrated or alleged impairment consistent with this paragraph. The Executive Director shall make the final determination regarding the scope and sufficiency of the investigation and the extent of any mitigation measures that may be required. Where ground and surface waters are rendered unavailable, unusable, or unsuitable for the pre-existing use, the Executive Director may direct the permit holder to take interim actions to mitigate such impacts, pending completion of the investigative report and any long-term repair, replacement or mitigation.

s. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

t. For the duration of any drought emergency declared by Delaware or the Commission, water service or use by the docket holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by DNREC to the extent that they may be

applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

u. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin *Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

BY THE COMMISSION

APPROVAL DATE: September 14, 2016

EXPIRATION DATE: September 14, 2026